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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/164,504	09/30/1998	MICHAEL S. KAPPES	20944.4000	6738

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EXAMINER

NGUYEN, TOAN D

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 05/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/164,504

Applicant(s)

KAPPES, MICHAEL S.

Examiner

Toan D Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 1998.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Schenk (U.S. Patent 4,937,813).

For claims 7-9, Schenk discloses system for canceling echo signals, comprising the steps of:

sampling an analog output signal provided by a local transmitter, said analog output signal including characteristics associated with a nonlinearity introduced by said local transmitter (figure 1, col. 3 line 26 to col. 4 line 33);

converting said analog output signal into a corresponding digital signal (col. 3 lines 45-52); and

producing a compensated digital signal for receipt by a local receiver, wherein said nonlinearity is substantially eliminated from the compensated digital signal (col. 4 lines 4-41).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schenk (U.S. Patent 4,937,813) in view of Brownlie (U.S. Patent 5,136,576).

For claims 1, 6, 11-14 and 16, Schenk discloses system for canceling echo signals, comprising the steps of:

generating an analog output signal by said first transmitter for receipt by said second receiver (col. 3 lines 26-32);

sampling said analog output signal (col. 3 lines 45-49); and

performing echo cancellation based on said analog output signal, wherein said echo cancellation cancels the echo signals conveyed by said echo channel (col. 4 lines 4-63). In claim 11, Schenk disclose further an echo canceler having an input signal and an output signal, wherein said input signal is operatively associated with the analog output signal, and said out put signal is representative of the echo signal and the non-linearities present in said digital communication system (col. 3 line 26 to col. 4 line 33).

However, Schenk do not explicitly disclose first and second devices having transmitters and receivers. In an analogous art, Brownlie discloses disclose first and second devices having

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transmitters and receivers (figures 1A and 1B, col. 2 lines 27-63). One skilled in the art would have recognized these devices to use teaching of Brownlie in the system of Schenk. Therefore, it would have been obvious to one of ordinary skill in the art, to use the first and second devices having transmitters and receivers as taught by Brownlie in Schenk's system with the motivation being to provide a transmission system comprising first and second stations connected via a transmission link in at least part of which transmission in two directions travel over a common path (col. 2 lines 27-31).

For claim 2, Schenk discloses performing cancellation substantially reduces the effects, on signals received by said first receiver, of non-linearities present in said first transmitter (col. 4 lines 27-33).

For claims 3-4, Schenk discloses the steps of:

converting said analog output signal into a corresponding digital signal, said digital signal corresponding to the echo signals as well as the non-linearities present in said first transmitter; and subtracting the digital signal from signals received by said first device to produce a compensated digital signal (figure 1, col. 3 line 26 to col. 4 line 33).

For claims 5, 10 and 15, Schenk discloses performing echo cancellation the step of updating said echo canceler with an update signal to increase the accuracy of an echo estimate generated by said echo canceler (col. 5 lines 48-57).

Contact Information

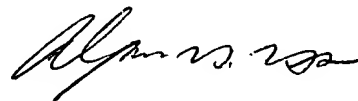
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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D Nguyen whose telephone number is 703-305-0140. The examiner can normally be reached on Monday- Friday (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 703-308-6602. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

TN
T.N.



**ALPUS H. HSU
PRIMARY EXAMINER**